

Application No. 09/918,961
Page 2 of 10

IN THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the patent application.

1. (currently amended) A system for providing automated distributed provisioning satellite resources in a satellite communication network comprising:
at least one satellite, said satellite comprising a plurality of antennas antenna elements for receiving transmissions from geographically distinct cells, a plurality of demodulators each adapted to demodulate signals in a particular frequency band for demodulating transmissions in particular frequency ranges, a switch matrix for connecting said antennas antenna elements to said demodulators, and a payload processor for configuring said switch matrix to configure said satellite resources as a payload configuration, wherein said resources comprise a plurality of channels for transmitting information to or from said satellite;
a network interface adapted to receive requests for satellite resources,
a satellite resource allocation plan, comprising information related to the satellite resource payload configuration over time and an allocation of satellite capacity pools amongst a plurality of remote network operators at geographically distributed locations; [[, and]]
a capacity management unit having a plurality of network interfaces accessible by the remote network operators, wherein the capacity management unit is adapted to automatically (i) receive a capacity allocation plan from any one of the remote network operators requesting a capacity allocation within one or more capacity pools allocated to said one network operator, (ii) a request processor adapted to determine whether said requests capacity allocation plan can be fulfilled based on a plurality of system constraints including the satellite resource allocation plan, (iii) to update the satellite resource allocation plan based on results of the determination, and to send commands to said payload processor in order to configure said satellite resources to fill modify the payload configuration to satisfy the capacity allocation plan. said requests, and to update said satellite resource allocation plan based on requests which can be fulfilled.

Application No. 09/918,961
Page 3 of 10

2. (currently amended) A system for provisioning satellite resources as in claim 1, wherein said plurality of network interfaces interface includes a web browser are accessed over a local area network.

3. (currently amended) A system for provisioning satellite resources as in claim 1, wherein said plurality of network includes the Internet interfaces are accessed over a wide area network.

4. (currently amended) A system for provisioning satellite resources as in claim 1, wherein said plurality of system constraints comprise a number of antennas further includes the number of antenna elements on board said satellite, each said antenna adapted to transmit signals to or receive signals from geographically distinct cells.

5. (currently amended) A system for provisioning satellite resources as in claim 4 claim1, wherein said plurality of system constraints comprise a further includes the number of demodulators on board said satellite, each said demodulator adapted to demodulate signals in a particular frequency range.

6. (currently amended) A system for provisioning satellite resources as in claim 5 claim1, wherein said plurality of system constraints further includes [[a]] the switch matrix adapted to connect said antennas to said demodulators.

7. (currently amended) A system for provisioning satellite resources as in claim 6, wherein said network interface includes a web browser claim 1, further comprising a primary network interface adapted to allow a network engineer to access the capacity management unit and further modify the satellite resource allocation plan and the payload configuration.

Application No. 09/918,961
Page 4 of 10

8. (currently amended) A system for provisioning satellite resources as in claim 6 claim 3, wherein said wide area network includes a secure connection over the Internet.

9. (currently amended) A system for provisioning satellite resources of a satellite, said satellite resources comprising a plurality of antennas for receiving transmissions from geographically distinct cells, a plurality of demodulators for demodulating transmissions in particular frequency ranges, a switch matrix for connecting said antennas to said demodulators, and a payload processor for configuring said switch matrix, said system comprising:

~~a network interface adapted to receive requests for satellite resources; and a request processor for determining whether said resources are available to fill said requests based on a resource allocation plan, and for sending commands to said payload processor in order to fill said requests; as in claim 1~~

wherein the satellite further comprises a payload processor, and said payload processor is adapted to configure said switch matrix over a period of time based on said resource allocation plan.

10. (currently amended) The system of claim 9, wherein said request processor is capacity management unit is further adapted to determine, for each of said requests said capacity allocation plan,

which geographic cell is cells are associated with said request the capacity allocation plan,

whether there is an available frequency band within said each such associated cell to fulfill said request the capacity allocation plan,

whether a demodulator is demodulators are available to demodulate said each available frequency band, and

whether said switch matrix is capable of associating connecting an antenna element associated with said each associated cell with said each available demodulator.

11-14. (canceled).

15. (currently amended) A method of automatically allocating satellite resources in a satellite communications system having at least one satellite, said satellite having a plurality of demodulators for demodulating signals received in certain frequency bands, and further having a plurality of spot beam antennas antenna elements for receiving signals from certain distinct geographic cells, and further having a switching matrix for associating antennas antenna elements with demodulators, the method comprising the steps of:

~~providing a network interface adapted to receive requests for satellite resources over a network and to provide information on the status of said requests;~~

~~receiving, at a capacity management unit of the satellite communications system, said requests a capacity allocation plan from one of a plurality of remote network operators at geographically distributed locations, said capacity allocation plan requesting a capacity allocation within one or more capacity pools allocated to said one network operator;~~

~~automatically determining, based on known a plurality of system constraints, whether said requests can be filled, and if said requests can be filled capacity allocation plan can be satisfied;~~

~~automatically modifying a satellite resource allocation plan based on results of the determining step; and~~

~~automatically transmitting commands to said satellite, causing said satellite to allocate resources to fill said requests to reconfigure a payload configuration of the satellite in order to be capable of fulfilling the modified satellite resource allocation plan.~~

16. (currently amended) The method of claim 15, wherein said determining step further comprises the steps of:

~~for each of said requests said capacity allocation plan, determining which of said geographic cell is cells are associated with said request the capacity allocation plan;~~

Application No. 09/918,961
Page 6 of 10

determining whether there is an available frequency band within said each such associated cell to fulfill said request the capacity allocation plan;

determining whether a demodulator is demodulators are available to demodulate said each available frequency band; and

determining whether said switch matrix is capable of associating connecting an antenna element associated with said each associated cell with said each available demodulator.

17. (currently amended) The method of claim 15, further comprising the steps of:

~~determining, based on existing satellite resource assignments, a frequency assignment to fulfill said request that minimizes interference within the requesting cell and neighboring cells; and~~

~~assigning a frequency to fulfill said request based on said determination wherein the plurality of system constraints comprises a satellite resource allocation plan including information regarding a payload configuration and an allocation of satellite capacity pools amongst the plurality of remote network operators.~~

18. (currently amended) The method of claim 15, further comprising the step of transmitting information representing the status of said requests, and the frequencies allocated to fulfill said requests, to said network interface wherein said plurality of system constraints comprises the number of antenna elements on the satellite.

19. (currently amended) The method of claim 15, wherein said network interface is a web browser wherein the plurality of system constraints comprises the number of demodulators on the satellite.

20. (currently amended) The method of claim 15, wherein said network is the Internet plurality of system constraints comprises the switch matrix.

Application No. 09/918,961
Page 7 of 10

21-26. (canceled).

27. (new) The method of claim 15, wherein the satellite resource allocation plan comprises information related to the payload configuration over time and an allocation of satellite capacity pools amongst the plurality of remote network operators at geographically distributed locations.

28. (new) The method of claim 15, wherein the payload configuration comprises a configuration of connections, through the switching matrix, between the plurality of antenna elements and the plurality of demodulators.

29. (new) The method of claim 15, further comprising the step of accessing the capacity management unit through a primary network interface and further modifying the satellite resource allocation plan and the payload configuration.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.